# REMARKS

This Amendment is submitted in response to the Examiner's Action dated February 8, 1996, having a shortened statutory period set to expire May 8, 1996, extended to June 8, 1996.

In that action, the Examiner has acknowledged receipt of the paper submitted under 35 U.S.C. § 119, which papers have been placed of record in the file. Further, the Applicant notes that the application has been filed with informal drawings which are acceptable for examination purposes only. Pursuant to the practice, formal drawings will be submitted upon an indication of allowable subject matter.

Next, the Examiner has rejected Claim 9 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Based upon a careful consideration of the Examiner's comments, Claims 4-9 have been cancelled, and thus, the Examiner's rejection of Claim 9 under 35 U.SC. § 112, second paragraph has been rendered moot.

Next, the Examiner has rejected Claims 1, 2 and 18 under 35 U.S.C. § 102(b) as being anticipated by *Yamazaki et al.*, Japanese Patent Application 4-205852. That rejection, insofar as it might be applied to the claims as amended herein, is respectfully traversed. *Yamazaki et al.* disclose disk cache device which includes a magnetic disk, a cache memory and a controller, wherein the disk cache device is characterized by the fact that the controller determines whether or not the cache memory contains data for which an access request has been received from the host computer and actuates the spindle motor of the magnetic disk only when the data required is not present within the cache memory, thereby minimizing the power consumption required for the storage system.

Based upon a careful consideration of the Examiner's comments, Claims 1 and 18 have been amended to more carefully characterize the invention of the present application. Specifically, these claims have been amended to recite that the cache control system accesses data stored within the storage element only if a read or write request cannot be satisfied via access to the cache memory, in much the same manner as disclosed by *Yamazaki*. However, the claims have further been amended to recite positively that data is accessed from the cache memory in response to a read or write request from the computer which can be satisfied via access to the cache memory and that data written to the cache memory is designated as "new data" in response to a write from the computer which updates the data within the cache memory.

Thereafter, in clear distinction to the teaching of *Yamazaki*, Claims 1 and 18 now clearly recite that the cache replacement mechanism transfers such new data from the cache memory to the storage elements in order to maintain consistency of data stored within the cache memory and data stored within the storage element when the storage element is at operating speed as a result of a read or write request which requires access to the storage element. In this manner, as should be appreciated by the Examiner, the necessity of operating the disk storage device at operating speed in order to destage updated data from the cache to the disk system is eliminated. By destaging updated data within the cache to the disk storage element when the storage element is at operating speed as a result of a read or write request which requires access to the storage element, the energy required to bring the disk storage element up to operating speed is efficiently utilized for more than one purpose. In this manner, the destaging of updated data from the cache to the storage element occurs in conjunction with an access to the storage element which could not be satisfied via access to the cache memory, greatly enhancing the energy efficiency of the resultant system. Consequently, Applicant urges that the Examiner's rejection of Claims 1, 2 and 18 under 35 U.S.C. § 102(b) as being anticipated by *Yamazaki et al.* is no longer appropriate, and withdrawal of that rejection is respectfully requested.

The Examiner has rejected the dependent claims in the present application over various combinations of *Yamazaki* with other secondary references. Each of these secondary references fails to show or suggest in any way the maintenance of updated data within a cache and the destaging of that updated data to the storage element when the storage element has been brought up to operating speed as a result of a read or write request which could not be satisfied by access to the cache.
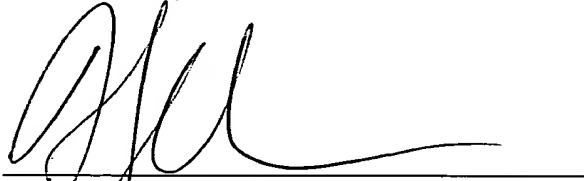
The *Tanebaum* reference cited by the Examiner describes a concept known as "piggybacking." However, the technique expressly set forth within the present claims of destaging updated data from the cache to the storage element in response to the occurrence of a read or write request which requires access to the storage element and thus initiation of operating speed within the storage element cannot be said to be "piggybacked" since the updated data is not "hooked" onto an alternate sector of data.

Further, inasmuch as each of these dependent claims depends from Claim 1, it is urged that the failure of the Examiner's primary reference, whether considered alone or in combination with the remaining secondary references, cannot be said to show or suggest in any way the novel data storage apparatus and method set forth within Claims 1 and 18. Consequently, Applicant urges that the Examiner's rejection of Claims 1-3 and 10-18 should be withdrawn and that this application should be advanced to issue.

A request for a one-month extension of time and authorization to charge Applicant's deposit account are enclosed herewith. No additional extension of time is believed to be necessary. If, however, an additional extension of time

is needed, please consider that extension requested, and charge the appropriate fee for the extension of time as well as any other fee necessary to further the prosecution of this application to Deposit Account No. 09-0465.

Respectfully submitted,

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